

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A computer readable storage medium having stored therein distribution map data used to distribute a map through communication, the distribution map data comprising:

road data in correspondence to each of a plurality of map area blocks, the map area blocks ranging over individual areas of the map which are equal to one another in size, wherein the road data provides position information indicating positions of roads within the individual map area blocks; and

integrated name data that provides common name information for a ~~single road, in common with the map area blocks~~ such that the integrated name data provides a single set of name data for the road for use among the individual map area blocks.

2. (Currently Amended) A computer readable storage medium according to claim 1, wherein:

the distribution map data includes the road data in each of a plurality of map layers set in correspondence to different specific scaling factors, each of the scaling factors having been set in accordance with ratios of distances between

points as represented on the corresponding map layer and the actual distances between the points; and

the integrated name data provides the common name information ~~for the single road in common with the plurality of map layers as well~~ such that the integrated map data provides a single set of name data for the individual map layers and the individual map area blocks.

3. (Currently Amended) A distribution map data generating method for generating distribution map data used to distribute a map through communication, comprising:

extracting road data and name data over map area blocks, the map area blocks ranging over individual areas of the map which are equal to one another in size so as to indicate a route passing through the map area blocks, from road map data that provides position information indicating positions of roads in each of the map area blocks and that provides name information indicating names ~~in~~ each of the roads in each of the map area blocks;

generating integrated name data by integrating name information for a single road in the extracted name data, so as to provide common name information for the ~~single road in common with the map area blocks~~ such that the integrated name data provides a single set of name data for the road for use among the individual map area blocks; and

generating the distribution map data by using the extracted road data and the integrated name data.

4. (Currently Amended) A distribution map data generating method according to claim 3, wherein:

the distribution map data includes the road data in each of a plurality of map layers set in correspondence to different specific scaling factors, each of the scaling factors having been set in accordance with ratios of distances between points as represented on the corresponding map layer and the actual distances between the points; and

the integrated name data provides the common name information ~~for the single road in common with the plurality of map layers as well~~ such that the integrated name data provides a single set of name data for the individual map layers and the individual map area blocks.

5. (Previously Presented) A distribution map data generating method according to claim 3 wherein:

the route passing through the map area blocks is determined as a road from a start point to an end point based upon the road data; and

when extracting the road data and the name data indicating the route, road data and name data contained in an area ranging over a predetermined width along the route are extracted based upon the road map data.

6. (Currently Amended) A distribution map data generating apparatus that generates distribution map data used to distribute a map through communication, comprising:

a storage device that stores road map data that provides position information and name information, the position information indicating positions of roads in each of map area blocks, the map area blocks ranging over individual areas of the map which are equal to one another in size, and that provides and the name information indicating names of the roads in each of the map area blocks;

an extraction device that extracts road data and name data over the map area blocks to indicate a route passing through the map area blocks based upon the road map data;

an integrating device that generates integrated name data by integrating name information for a ~~single~~ road in the name data extracted by the extraction device so as to provide common name information for the ~~single road in common with the map area blocks~~ , such that the integrated name data provides a single set of name data for the road in for use among the individual map area blocks;
and

a generating device that generates the distribution map data by using the road data extracted by the extraction device and the integrated name data.

7. (Currently Amended) A distribution data generating apparatus according to claim 6, wherein:

the distribution map data includes the road data in each of a plurality of map layers set in correspondence to different specific scaling factors, each of the scaling factors having been set in accordance with ratios of distances between points as represented on the corresponding map layer and the actual distances between the points; and

the integrated name data provides the common name information ~~for the single road in common with the plurality of map layers as well~~ such that the integrated map data provides a single set of name data for the individual map layers and the individual map area blocks.

8. (Previously Presented) A distribution map data generating apparatus according to claim 6, wherein:

the route passing through the map area blocks is determined as a road from a start point to an end point based upon the road data; and

when extracting the road data and the name data indicating the route, the extraction device extracts road data and name data contained in an area ranging over a predetermined width along the route based upon the road map data.

9. (Currently Amended) A terminal device that displays a map by using distribution map data including the road data and integrated name data to indicate a route passing through map area blocks, the integrated name data providing common name information for a ~~single road in common with the map area blocks~~ such that the integrated name data provides a single set of name

data for the road in the individual map area blocks, the distribution map data having been generated at a distribution map data generating apparatus according to claim 6, comprising:

a reception device that receives the distribution map data transmitted from an external source; and

a display device that displays the route on a monitor based upon the road data in the received distribution map data and that displays names of roads on the route based upon the integrated name data in the received distribution map data.

10. (Previously Presented) A terminal device according to claim 9, further comprising:

a first position determining device that determines display positions at which the names of the roads on the route are displayed by the display device based upon road types of the roads on the route.

11. (Previously Presented) A terminal device according to claim 9, further comprising:

a second position determining device that determines display positions at which the names of the roads on the route are displayed by the display device so as to orient the names of the roads on the route to be parallel to inclinations of the route.

12. (Canceled).

13. (Canceled).

14. (Previously Presented) A distribution map data generating method according to claim 4, wherein:

the route passing through the map area blocks is determined as a road from a start point to an end point based upon the road data; and

when extracting the road data and the name data indicating the route, road data and name data contained in an area ranging over a predetermined width along the route are extracted based upon the road map data.

15. (Previously Presented) A distribution map data generating apparatus according to claim 7, wherein:

the route passing through the map area blocks is determined as a road from a start point to an end point based upon the road data; and

when extracting the road data and the name data indicating the route, the extraction device extracts road data and name data contained in an area ranging over a predetermined width along the route based upon the road map data.

16. (Currently Amended) A terminal device that displays a map by using distribution map data including road data and integrated name data to indicate a route passing through map area blocks, the integrated name data

providing common name information for a ~~single road in common with the map area blocks~~ such that the integrated name data provides a single set of name data for use among the individual map area blocks, the distribution data having been generated at a distribution map data generating apparatus according to claim 7, comprising:

a reception device that receives the distribution map data transmitted from an external source; and

a display device that displays the route on a monitor based upon the road data in the received distribution map data and that displays names of roads on the route based upon the integrated name data in the received distribution map data.

17. (Currently Amended) A terminal device that displays a map by using distribution map data including road data and integrated name data to indicate a route passing through map area blocks, the integrated name data providing common name information for a ~~single road in common with the map area blocks~~ such that the integrated name data provides a single set of name data for the road for use among the individual map area blocks, the distribution map data having been generated at a distribution map data generating apparatus according to claim 8, comprising:

a reception device that receives the distribution map data transmitted from an external source; and

a display device that displays the route on a monitor based upon the road data in the received distribution map data and that displays names of roads on the route based upon the integrated name data in the received distribution map data.

18. (Currently Amended) A terminal device that displays a map by using distribution map data including road data and integrated name data to indicate a route passing through map area blocks, the integrated name data providing common name information for a ~~single road in common with the map area blocks~~ such that the integrated name data provides a single set of name data for the road for use among the individual map area blocks, the distribution map data having been, generated at a distribution map data generating apparatus according to claim 15, comprising:

a reception device that receives the distribution map data transmitted from an external source; and

a display device that displays the route on a monitor based upon the road data in the received distribution map data and that displays names of roads on the route based upon the integrated name data in the received distribution map data.

19. (Previously Presented) A terminal device according to claim 16, further comprising:

a first position determining device that determines display positions at which the names of the roads on the route are displayed by the display device based upon road types of the roads on the route.

20. (Previously Presented) A terminal device according to claim 17, further comprising:

a first position determining device that determines display positions at which the names of the roads on the route are displayed by the display device based upon road types of the roads on the route.

21. (Previously Presented) A terminal device according to claim 18, further comprising:

a first position determining device that determines display positions at which the names of the roads on the route are displayed by the display device based upon road types of the roads on the route.

22. (Previously Presented) A terminal device according to claim 10, further comprising:

a second position determining device that determines display positions at which the names of the roads on the route are displayed by the display device so as to orient the names of the roads on the route to be parallel to inclinations of the route.